

TEST DATA OF MGFS30483R3

Regulated DC Power Supply

November 19, 2010

Approved by : *Kazunari Asano*
Kazunari Asano Design Manager

Prepared by : *Masashi Ueda*
Masashi Ueda Design Engineer

COSEL CO.,LTD.

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48	3.388	3.385																																	
60	3.388	3.384																																	
76	3.387	3.384																																	
80	3.387	3.384																																	
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																			

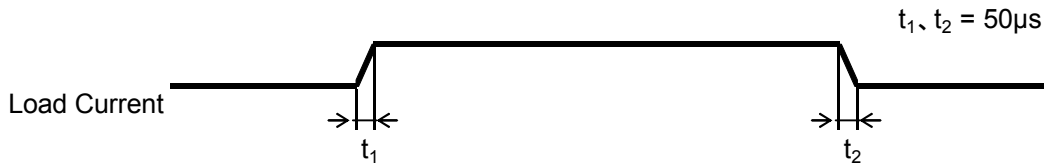


<p>Model MGFS30483R3</p>		<p>Temperature 25°C</p>																																																																														
<p>Item Load Regulation</p>		<p>Testing Circuitry Figure A</p>																																																																														
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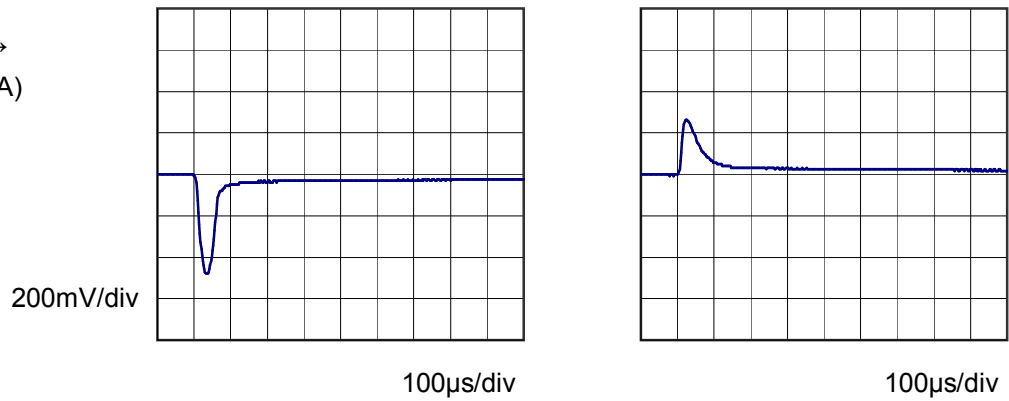


Model	MGFS30483R3	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+3.3V7.5A		

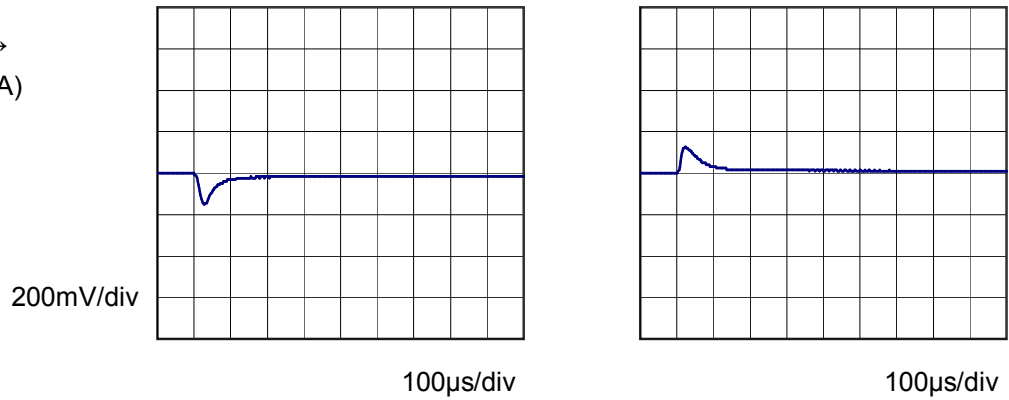
Input Volt. 48 V
 Cycle 1000 ms



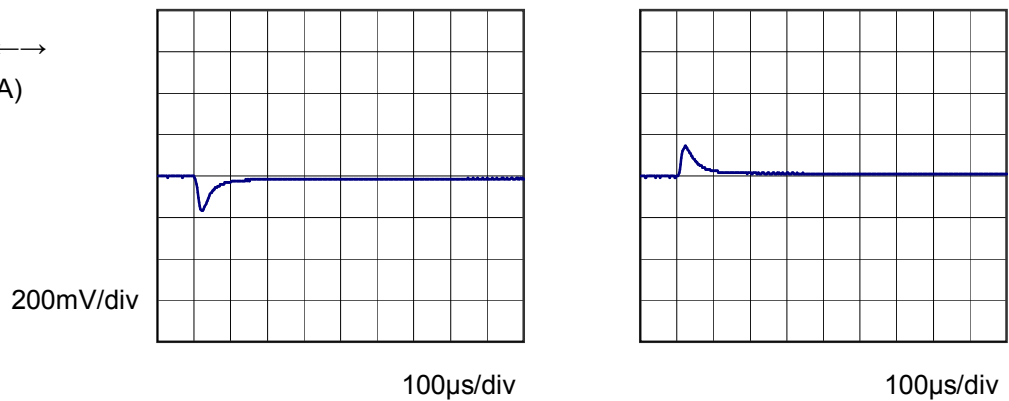
Min. Load (0A) ←→
 Load 100% (7.5A)



Min. Load (0A) ←→
 Load 50% (3.75A)

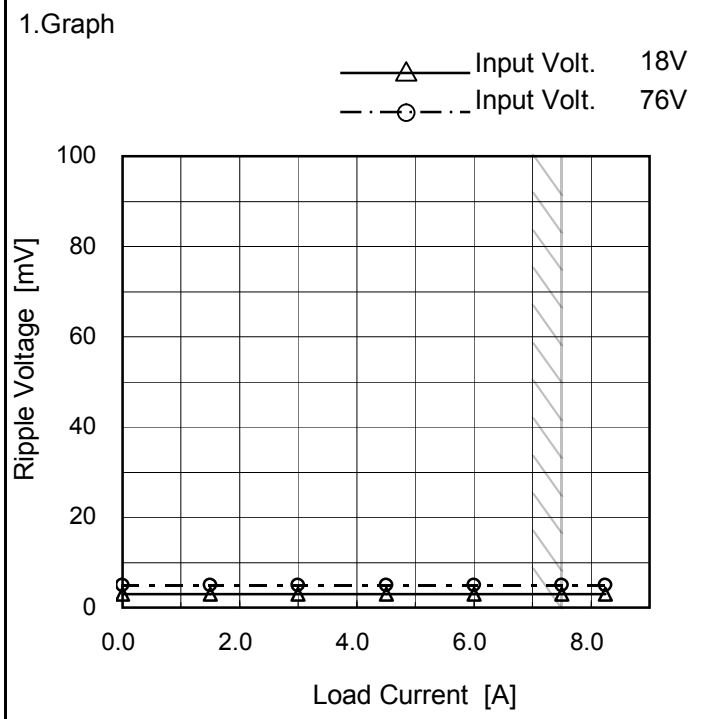


Load 50% (3.75A) ←→
 Load 100% (7.5A)





Model	MGFS30483R3	Temperature	25°C
Item	Ripple Voltage (by Load Current)	Testing Circuitry	Figure B
Object	+3.3V7.5A		



2. Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.00	3	5
1.50	3	5
3.00	3	5
4.50	3	5
6.00	3	5
7.50	3	5
8.25	3	5
--	-	-
--	-	-
--	-	-
--	-	-

Ripple Voltage is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

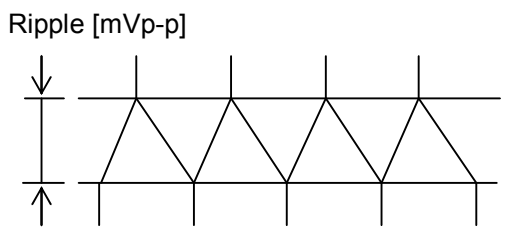
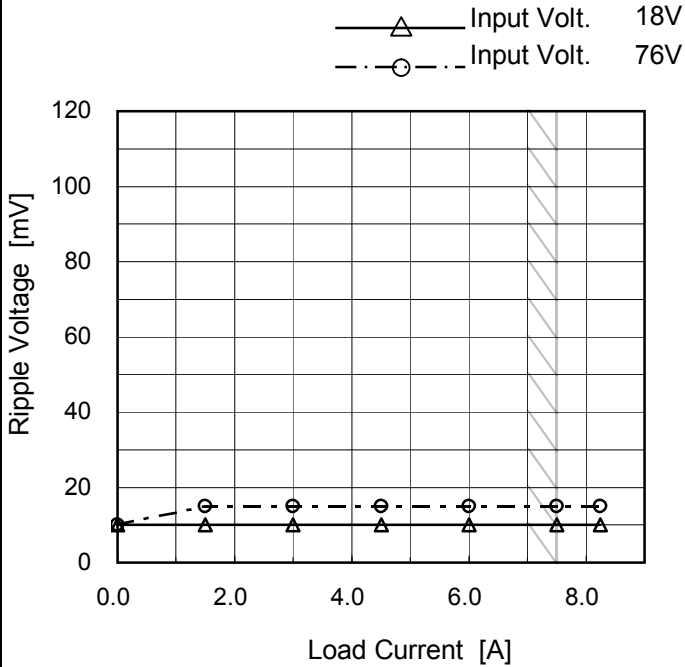


Fig. Complex Ripple Wave Form



Model	MGFS30483R3	Temperature	25°C
Item	Ripple-Noise	Testing Circuitry	Figure B
Object	+3.3V7.5A		

1. Graph



2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.00	10	10
1.50	10	15
3.00	10	15
4.50	10	15
6.00	10	15
7.50	10	15
8.25	10	15
--	-	-
--	-	-
--	-	-
--	-	-

Ripple-Noise is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

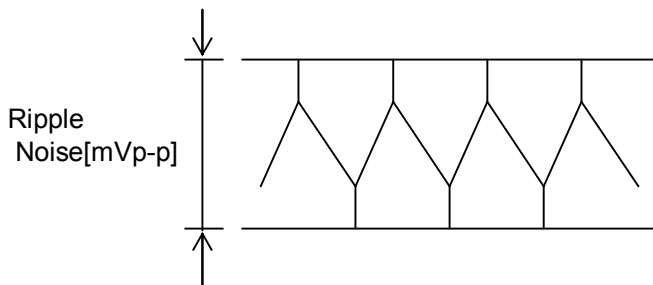


Fig. Complex Ripple Noise Wave Form



Model		MGFS30483R3																																							
Item		Ripple Voltage (by Ambient Temp.)																																							
Object		+3.3V7.5A																																							
1.Graph		2.Values																																							
<p>---□--- Load 50%</p> <p>—△— Load 100%</p> <p>Ripple Voltage [mV]</p> <p>Ambient Temperature [°C]</p> <p>Input Volt. 48V</p>		<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-60</td><td>11</td><td>13</td></tr> <tr><td>-40</td><td>8</td><td>9</td></tr> <tr><td>-20</td><td>6</td><td>6</td></tr> <tr><td>0</td><td>6</td><td>6</td></tr> <tr><td>25</td><td>5</td><td>5</td></tr> <tr><td>60</td><td>3</td><td>3</td></tr> <tr><td>65</td><td>3</td><td>3</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>		Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-60	11	13	-40	8	9	-20	6	6	0	6	6	25	5	5	60	3	3	65	3	3	--	-	-	--	-	-	--	-	-	--	-	-
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<p>Measured by 100 MHz Oscilloscope.</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																									

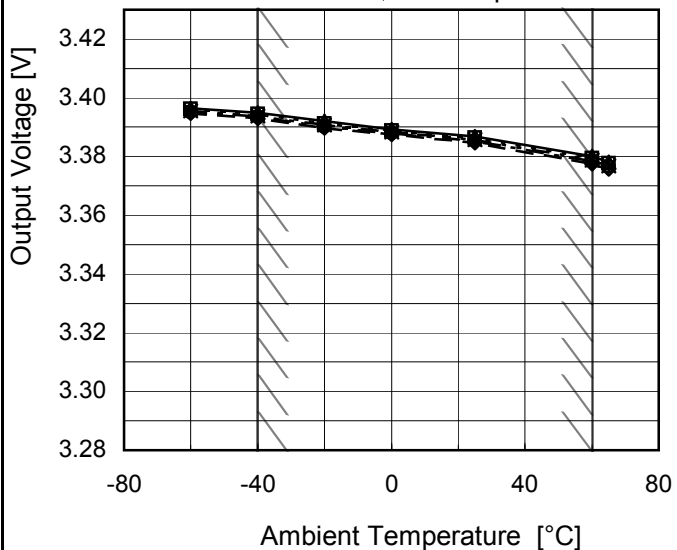


Model	MGFS30483R3
Item	Ambient Temperature Drift
Object	+3.3V7.5A

Testing Circuitry Figure A

1.Graph

- △— Input Volt. 18V
- Input Volt. 24V
- *--- Input Volt. 36V
- Input Volt. 48V
- ◇--- Input Volt. 76V



Load 100%

Note: Slanted line shows the range of the rated ambient temperature.

2.Values

Ambient Temperature [°C]	Output Voltage [V]				
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-60	3.396	3.396	3.396	3.395	3.395
-40	3.395	3.394	3.394	3.394	3.393
-20	3.392	3.391	3.391	3.390	3.390
0	3.389	3.389	3.388	3.388	3.387
25	3.387	3.386	3.386	3.385	3.385
60	3.380	3.380	3.379	3.378	3.378
65	3.378	3.378	3.377	3.377	3.376
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-



COSEL		
Model	MGFS30483R3	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V7.5A	

1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -40 - 60°C

Input Voltage : 18 - 76V

Load Current : 0 - 7.5A

* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-40	36	0	3.399	±11	±0.3
Minimum Voltage	60	76	7.5	3.378		



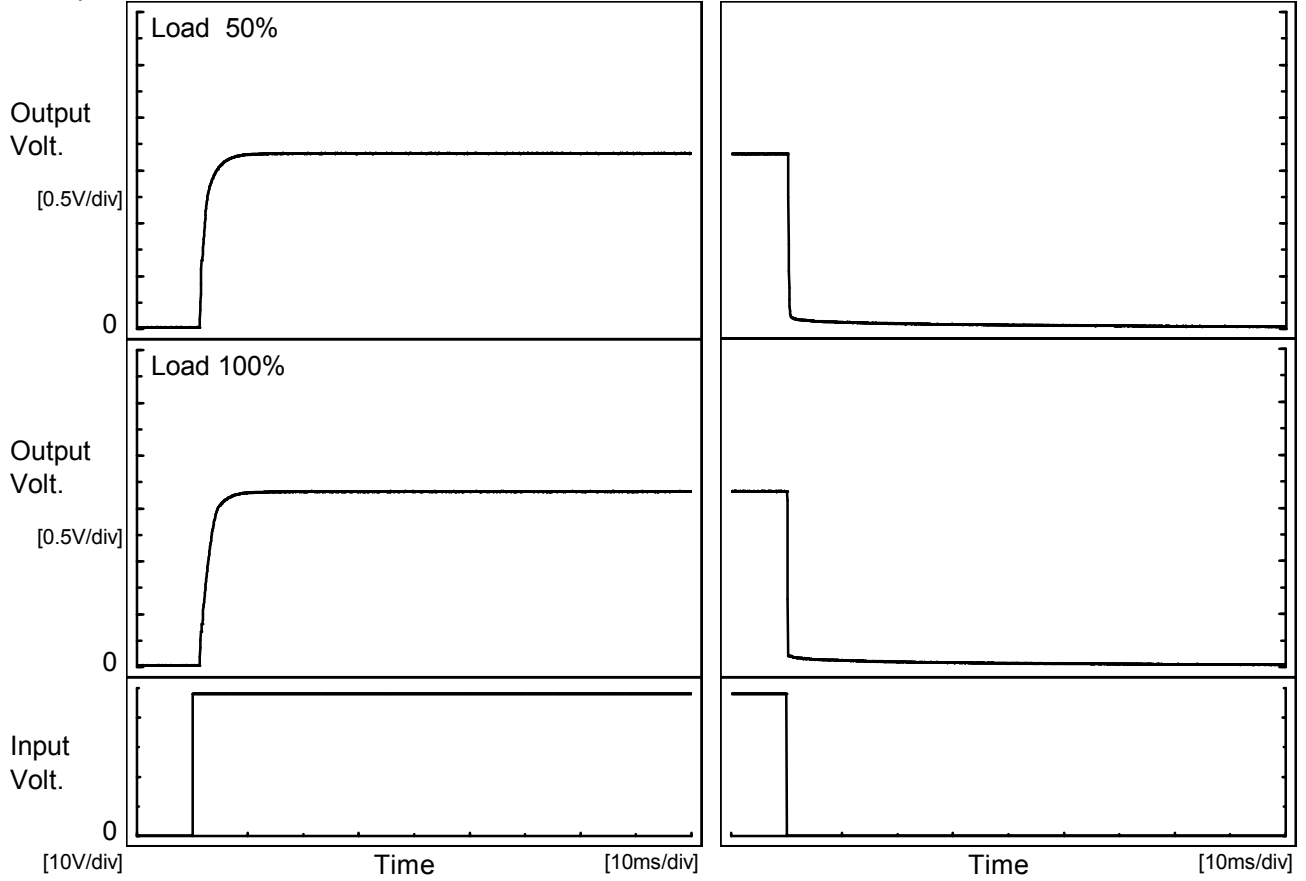
COSEL																								
Model	MGFS30483R3																							
Item	Time Lapse Drift	Temperature 25°C Testing Circuitry Figure A																						
Object	+3.3V7.5A																							
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 48V Load 100%</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>3.384</td></tr> <tr><td>0.5</td><td>3.378</td></tr> <tr><td>1.0</td><td>3.377</td></tr> <tr><td>2.0</td><td>3.378</td></tr> <tr><td>3.0</td><td>3.378</td></tr> <tr><td>4.0</td><td>3.378</td></tr> <tr><td>5.0</td><td>3.378</td></tr> <tr><td>6.0</td><td>3.378</td></tr> <tr><td>7.0</td><td>3.378</td></tr> <tr><td>8.0</td><td>3.378</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	3.384	0.5	3.378	1.0	3.377	2.0	3.378	3.0	3.378	4.0	3.378	5.0	3.378	6.0	3.378	7.0	3.378	8.0	3.378
Time since start [H]	Output Voltage [V]																							
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COSEL			
Model	MGFS30483R3	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+3.3V7.5A		

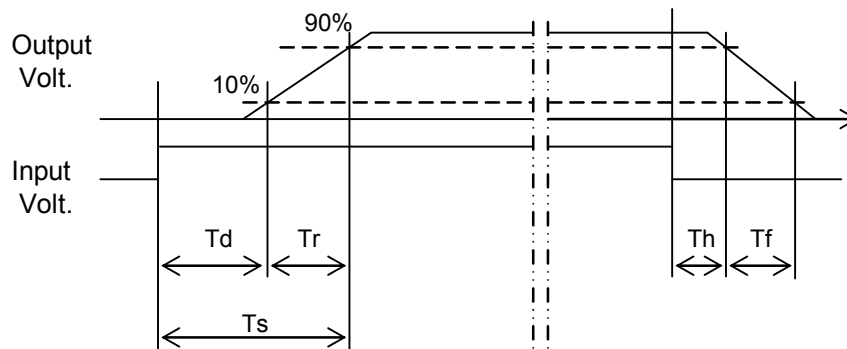
1. Graph

Input Volt. 48 V



2. Values

		[ms]				
Load \ Time	Time	Td	Tr	Ts	Th	Tf
50 %		1.4	3.0	4.4	0.2	0.3
100 %		1.4	3.2	4.6	0.2	0.1





COSEL																																								
Model	MGFS30483R3																																							
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A																																						
Object	+3.3V7.5A																																							
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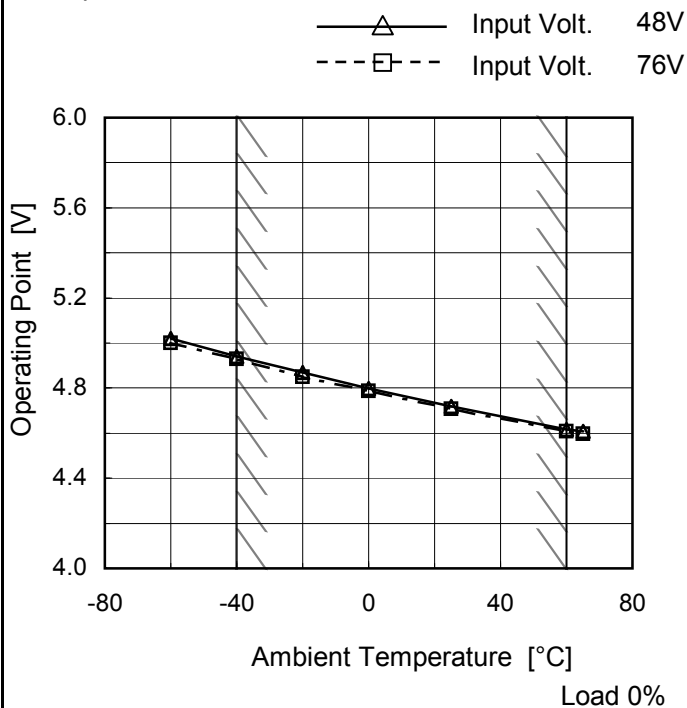
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Model	MGFS30483R3
Item	Overvoltage Protection
Object	+3.3V7.5A

Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated ambient temperature.

2. Values

Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 48[V]	Input Volt. 76[V]
-60	5.02	5.00
-40	4.94	4.93
-20	4.87	4.85
0	4.80	4.79
25	4.72	4.71
60	4.62	4.61
65	4.61	4.60
--	-	-
--	-	-
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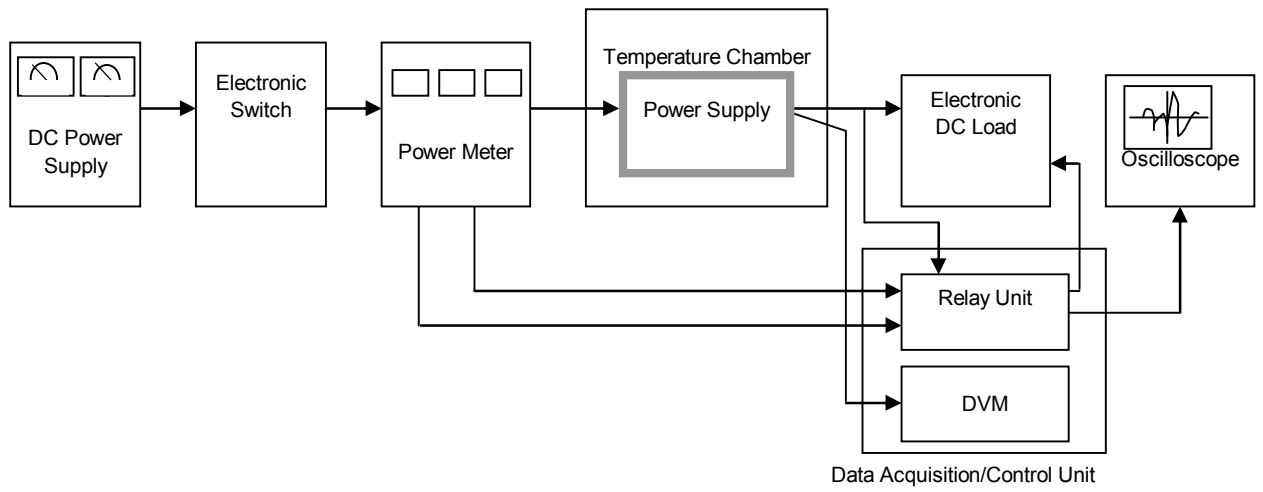


Figure A

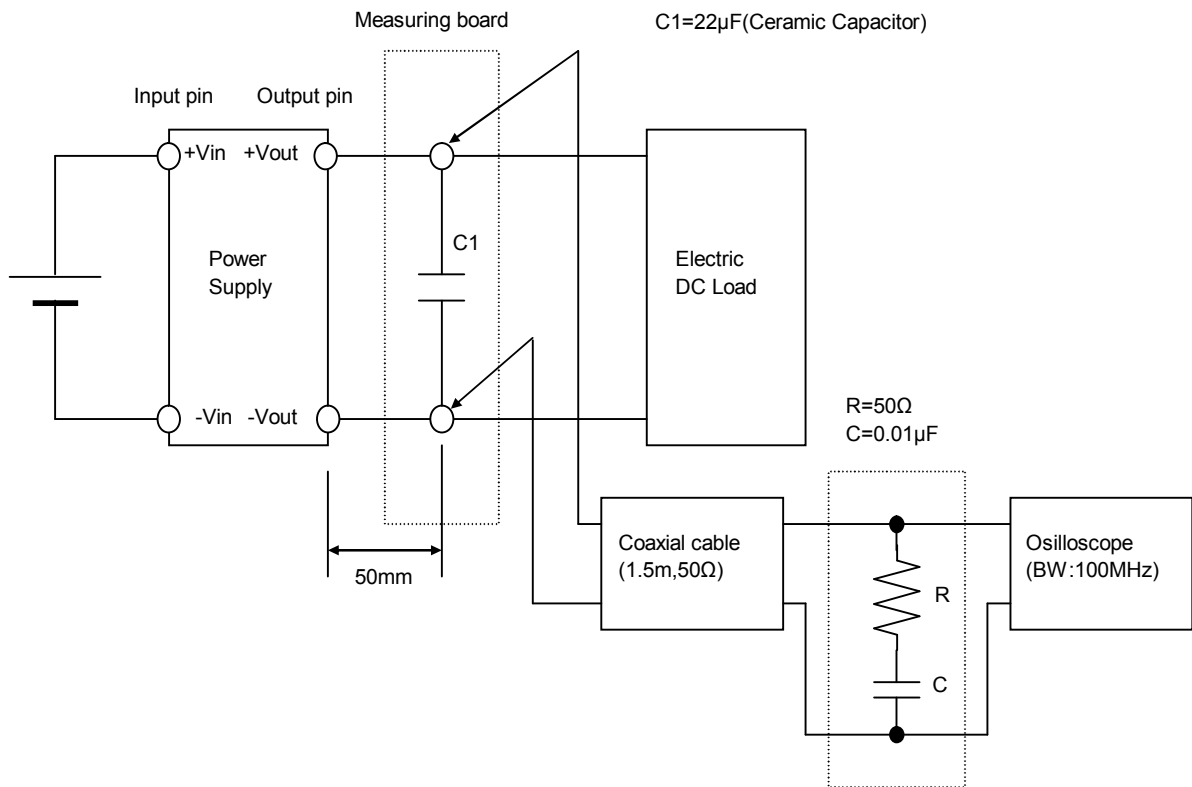


Figure B (Ripple and Ripple noise Characteristic)